

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of All Pending Claims

1. (currently amended) A tunable isolator circuit comprising:

an isolator comprising an input port, an output port and an isolation port coupled to a ground;

an isolation ~~matching~~ circuit coupled to the isolation port of the isolator, the isolation circuit comprising:

a first tunable component coupled between the isolation port and a first connection point;

a second tunable component coupled between the first connection point and the ground;

a resistive element between the first connection point and the ground; and

an input matching circuit having a first signal port coupled to the input port of the isolator and a second signal port coupled to an electrical component, the input matching circuit comprising:

a signal path from the first signal port to the second signal port; and

a first ferro-electric tunable component coupled between the first signal port and the second signal port along the signal path, wherein the first ferro-electric tunable component is responsive to a control signal for adjusting an impedance of the input matching circuit.

2. (previously presented) The tunable isolator circuit of claim 1, wherein the first ferro-electric tunable component comprises a ferro-electric tunable capacitor.

3. (canceled)

4. (previously presented) The tunable isolator circuit of claim 1, wherein the input matching circuit matches impedances between the isolator and the electronic component, wherein the electronic component is a power amplifier.

5. (previously presented) The tunable isolator circuit of claim 1, wherein the input matching circuit further comprises a second ferro-electric tunable component coupled between the signal path and an electrical ground.

6. (previously presented) The tunable isolator circuit of claim 5, wherein the second ferro-electric tunable component comprises a tunable ferro-electric capacitor.

7. (previously presented) The tunable isolator circuit of claim 1, further comprising:
an output matching circuit having a third signal port coupled to the output port of the isolator and a fourth signal port coupled to a second electrical component, the output matching circuit comprising:

the signal path from the third signal port to the fourth signal port; and
a third ferro-electric tunable component coupled between the third signal port and the fourth signal port along the signal path, wherein the third circuit ferro-electric tunable component is responsive to a second control signal for adjusting the impedance of the output matching circuit.

8. (previously presented) The tunable isolator circuit of claim 1, wherein the input matching circuit is a power amplifier-to-isolator matching circuit coupled to the output port of a power amplifier and to the input port of the isolator.

9. (previously presented) The tunable isolator circuit of claim 7, wherein the output matching circuit further comprises a fourth ferro-electric tunable component coupled between the signal path and an electrical ground.

10. (previously presented) The tunable isolator circuit of claim 9, wherein the fourth ferro-electric tunable component comprises a tunable ferro-electric capacitor.

11. (previously presented) The tunable isolator circuit of claim 1, wherein the isolation matching circuit is coupled between an electrical ground and the isolation port, and wherein the isolation matching circuit comprises an isolation circuit ferro-electric tunable component.

12. (previously presented) The tunable isolator circuit of claim 11, wherein the isolation circuit ferro-electric tunable component comprises a ferro-electric tunable capacitor.

13. (previously presented) The tunable isolator circuit of claim 7, wherein the output matching circuit matches a natural output impedance of the isolator to a natural input impedance of the second electrical component.

14. (previously presented) The tunable isolator circuit of claim 13, wherein the second electrical component is a duplexer, and wherein the output matching circuit matches from about 12.5 ohms at the isolator output port to about 12.5 ohms at a duplexer input port.

15. (previously presented) The tunable isolator circuit of claim 8, wherein the input matching circuit matches a natural output impedance of the power amplifier to a natural input impedance of the isolator.

16. (previously presented) The tunable isolator circuit of claim 15, wherein the input

matching circuit matches from about 2 ohms at a power amplifier output port to about 12.5 ohms at the isolator input port.

17. (previously presented) The tunable isolator circuit of claim 7, wherein the output matching circuit matches a natural output impedance of the isolator to a natural input impedance of the second electrical component coupled to the output port of the isolator, and wherein the input matching circuit matches a natural output impedance of the power amplifier to a natural input impedance of the isolator.

18. (canceled)

19. (canceled)

20. (currently amended) A tunable isolator circuit comprising:

an isolator comprising an input port, an output port and an isolation port coupled to a ground;

~~an isolation matching circuit coupled to the isolation port of the isolator and comprising at least one ferro-electric tunable component;~~

an input matching circuit having a first signal port coupled to the input port of the isolator and a second signal port coupled to an electrical component, the input matching circuit comprising:

a signal path from the first signal port to the second signal port; and

a first ferro-electric tunable component coupled between the first signal port and the second signal port along the signal path, wherein the first ferro-electric tunable component is responsive to a control signal for adjusting the impedance of the input matching circuit; and

an output matching circuit having a third signal port coupled to the output port of the isolator and a fourth signal port coupled to a second electrical component, the output matching circuit comprising:

the signal path from the third signal port to the forth signal port; and
a second ferro-electric tunable component coupled between the third
signal port and the fourth signal port along the signal path, wherein
the second circuit ferro-electric tunable component is responsive to
a second control signal for adjusting the impedance of the output
matching circuit; and

an isolation circuit coupled to the isolation port of the isolator comprising:

a first isolation circuit tunable component coupled between the isolation
port and a first connection point;

a second isolation circuit tunable component coupled between the first
connection point and the ground;

a resistive element coupled between the first connection point and the
ground.

21. (new) The tunable isolator circuit of claim 20, wherein at least one of the first
isolation circuit tunable component and the second isolation circuit tunable component
comprises a tunable ferro-electric element.

22. (new) The tunable isolator circuit of claim 1, wherein at least one of the first tunable
component and the second tunable component comprises a tunable ferro-electric
element.